



SEPTEMBER/OCTOBER 2024

Explorer

HIDE
YOUR
FISH
STICKS!

HUNGRY PELICANS
ARE PASSING
THROUGH

CONTENTS

FEATURES

6 **Big, Bright, and Beaky**

A curious bird is the pelican. Its beak can hold more than its belly can.

12 **Postcards from a Migrating Monarch**

Join a plucky orange butterfly on her epic adventure.


CREATURE FEATURE

10 **Southern Flying Squirrel**

Pull out this poster and tape it to your wall to make your room look wild.

DEPARTMENTS

- 2 Strange but True
- 3 What Is It?
- 3 Two Truths, One Lie
- 4 How To
- 18 Xplor More
- 20 Get Out!
- 21 Go Find It!



A katydid takes a liking to some lichen. The leaf-shaped insects are nearly impossible to spot but easy to hear. Listen for their droning songs at sunset until the first hard frosts of fall.



GOVERNOR

Michael L. Parson

CONSERVATION COMMISSION

Margaret F. Eckelkamp

Steven D. Harrison

Mark L. McHenry

Raymond T. Wagner Jr.

DIRECTOR

Jason A. Sumners

XPLOR STAFF

ARTIST Matt Byrde

PHOTOGRAPHERS Noppadol Paothong

David Stonner

DESIGNER Marci Porter

ART DIRECTORS Ben Nickelson

Cliff White

EDITOR Matt Seek

SUBSCRIPTIONS Marcia Hale

MAGAZINE MANAGER Stephanie Thurber

All content created by Missouri Department of Conservation staff unless otherwise noted.

Xplor (ISSN 2151-8351) is published bimonthly. It is a publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) Subscription free to Missouri residents (one per household); out of state \$7 per year; out of country \$11 per year. Please allow 6-8 weeks for first issue. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. **Postmaster:** Send correspondence to *Xplor Circulation*, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-751-4115, ext. 3856.

Copyright © 2024 by the Conservation Commission of the State of Missouri. Vol. 15, No. 5, September/October 2024 issue printed by LSC Communications in August 2024 in Liberty, Missouri. Printed in the USA.

Send editorial comments to: **Mailing address:** *Xplor Magazine*, PO Box 180, Jefferson City, MO 65102-0180; **Email:** Xplor@mdc.mo.gov. **Please note:** *Xplor* does not accept unsolicited article queries, manuscripts, photographs, or artwork. Any unsolicited material sent will not be returned.

Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, religion, national origin, sex, ancestry, age, sexual orientation, veteran status, or disability. Questions should be directed to the Department of Conservation, PO Box 180, Jefferson City, MO 65102, 573-751-4115 (voice) or 800-735-2966 (TTY), or to Chief, Public Civil Rights, Office of Civil Rights, U.S. Department of the Interior, 1849 C Street, NW, Washington, D.C. 20240.



We recycle.

**You can, too! Share
Xplor with friends.**

ON THE COVER

American White Pelicans

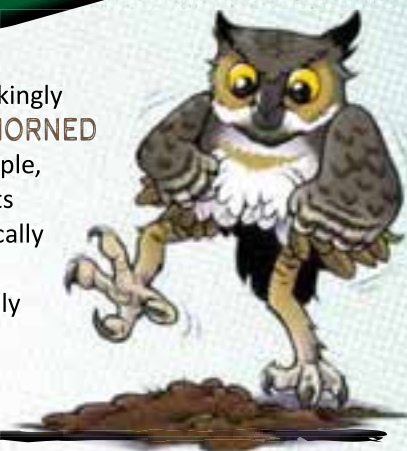
STRANGE BUT TRUE

Your guide to all the
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE**
stuff that goes on in nature

BOLAS SPIDERS spin a long silk line with a drop of sticky "glue" at the end. When a moth flutters nearby, the spider flings out the line like a lasso, wrapping it around the moth to snare it for supper.



Many owls have shockingly long legs. A **GREAT HORNED OWL'S** legs, for example, can account for half its body length. We typically don't notice the legs because they're usually hidden by the bird's fluffy body feathers.



RED-HEADED WOODPECKERS

store snacks, like acorns and other seeds, in cracks and crevices. They even stuff grasshoppers into snack storage, wedged in tight enough that the hapless insects can't escape.



Ahhhhh-CHOOO! A single **GIANT RAGWEED** plant can produce up to a billion grains of pollen. Because it's nearly weightless, the pollen can be carried by the wind up to 400 miles away.



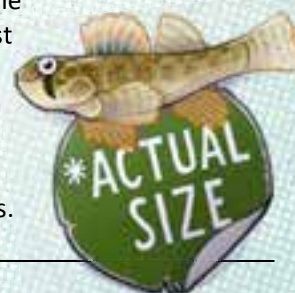
As **WHITE-TAILED DEER** grow older, their antlers get bigger. Male fawns, called "button bucks," have little nubs on their heads. By the following fall, most bucks sport spikes. On average, a buck's antlers become as big as they will be by their seventh autumn.



Bats make high-pitched squeaks that echo off objects. This helps them find prey and navigate in the dark. But **SILVER-HAIRED BATS** squeak for an additional reason: to sing. Biologists think the songs might be used to attract mates.



LEAST DARTERS, as their name suggests, are Missouri's smallest fish. Adults rarely grow longer than 1.5 inches. The little fish are underwater acrobats, clambering around aquatic plants to slurp insects off leaves.



WHAT IS IT?

DON'T KNOW? Jump to Page 21 to find out.

- 1 "Warts" cover my skin.
- 2 And my belly isn't too thin.
- 3 During the day, I like to sleep in.
- 4 Breathing water is how I begin.



TWO TRUTHS, ONE LIE

— Which —
fascinating fact
is actually a fib?

Answer on Page 21



- 1 Elk are Missouri's mightiest mammals. A full-grown bull can tip the scales at more than 800 pounds. In fact, a bull's towering antlers alone can weigh 40 pounds.
- 2 Elk are strict vegetarians. To get enough nutrients from grasses and other plants — which are hard to digest — an elk doesn't have just one stomach, it has three.
- 3 When elk walk, their front ankles make a clicking sound. This "knuckle cracking" helps them keep track of each other at night or when they're in a brushy forest.

HOW TO

USE A BANDANA OUTDOORS

A bandana is a powerhouse piece of gear. These handy squares of cloth are lightweight, take up little space in a backpack or pocket, and have countless uses when you're outside. Here are a few things you can use a bandana for — besides blowing your nose.



SUN PROTECTION

- ◆ Forgot your hat? No problemo! Whip out your bandana and tie it pirate-style over your head.
- ◆ Fold it into a triangle and wear it like a cowboy to keep your neck from getting sunburned.
- ◆ To keep cool when temperatures skyrocket, dip the bandana in cold water before you tie it around your neck.

CAMP KITCHEN

- ◆ Fold a bandana into a thick square and use it as a pot holder to lift an iron skillet off of campfire coals.
- ◆ Grimy dishes are no match for a soapy bandana and a little elbow grease.
- ◆ A bandana makes a great mini tablecloth to keep your meal off the grubby ground.



PERSONAL CARE

- ◆ Tie a bandana around your forehead to catch sweat on a steamy day.
- ◆ Dry off your feet after crossing a shallow stream.
- ◆ Wash your face after a dusty hike.



FIRST AID

- ◆ Use a bandana to gently apply pressure to stop bleeding and secure a sterile dressing to a wound. Don't tie the bandana too tight!



OTHER USES

- ◆ Tie a bright bandana to a branch to indicate the correct path at a fork in the trail.
- ◆ Lash a water bottle to your backpack.
- ◆ Make a pouch to collect blackberries, pecans, or other outdoor treasures.



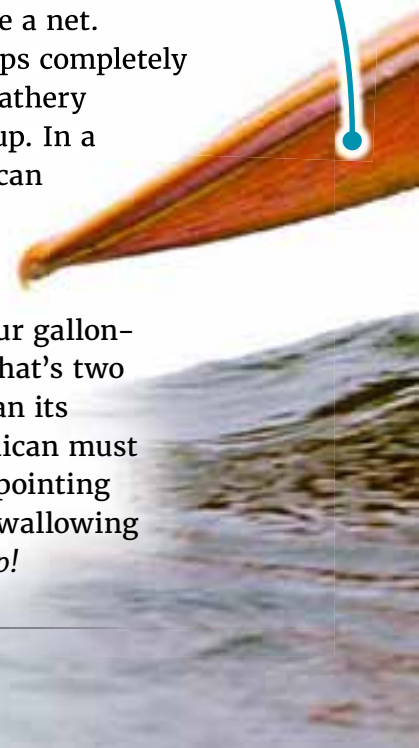
BIG, BRIGHT, AND BEAKY

AMERICAN WHITE PELICANS SURE STAND OUT IN A CROWD.

It's hard to miss an American white pelican. Weighing up to 30 pounds — more than a miniature poodle — and with a 9-foot wingspan, a full-grown pelican is one of the biggest birds in North America. Their striking white feathers with black wingtips are easy to spot. But it's usually a pelican's enormous, orange, pterodactyl-like beak that people notice first. And if the beak wasn't noticeable enough, during mating season, males and females sprout a round plate or "horn" on top of their beaks that falls off at the end of summer.

SUPER SCOOPER

A stretchy pouch of skin hangs off the bottom of a pelican's long beak. When the hungry bird wishes for fishes, it swooshes its beak underwater like a net. Sometimes, a pelican tips completely over, leaving only its feathery white bottom sticking up. In a single scoop, a pelican can capture a fish as large as a carp. It also scoops up enough water to fill three or four gallon-sized milk jugs. Since that's two or three times more than its stomach can hold, a pelican must drain the water before pointing its beak skyward and swallowing any fish left inside. *Gulp!*





CAN YOU SPOT
THE FISH?

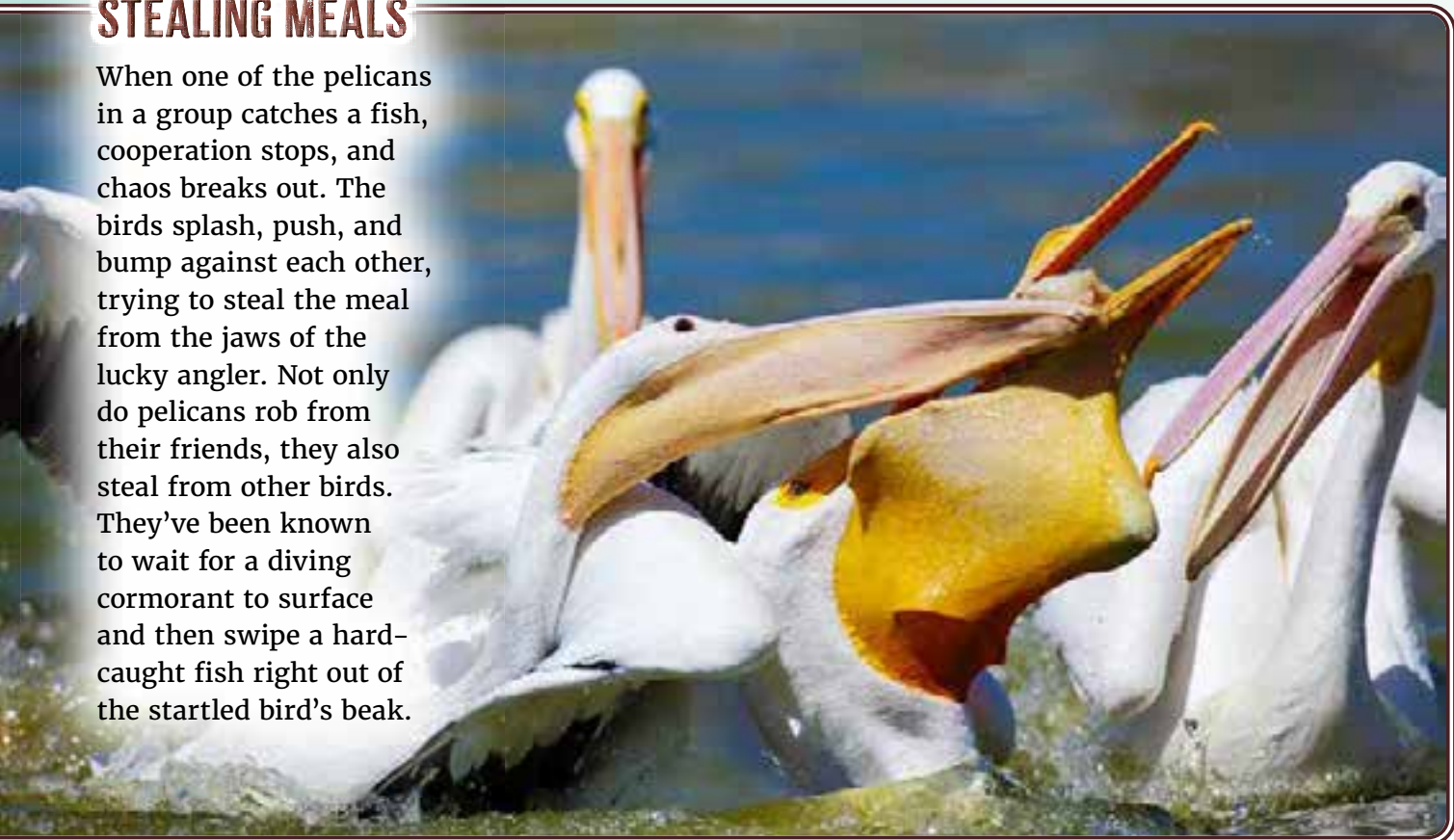
FISHING WITH FRIENDS

Pelicans often work together to catch fish. Teams of six or more birds paddle in a line, dipping their beaks and splashing water with their wings. Scared fish swim away from the commotion — right into a trap. Once the pelicans herd the fish into the shallows or encircle the entire school, the hungry birds dip up dinner as easily as if it were swimming in a soup bowl.



STEALING MEALS

When one of the pelicans in a group catches a fish, cooperation stops, and chaos breaks out. The birds splash, push, and bump against each other, trying to steal the meal from the jaws of the lucky angler. Not only do pelicans rob from their friends, they also steal from other birds. They've been known to wait for a diving cormorant to surface and then swipe a hard-caught fish right out of the startled bird's beak.



© GLASS AND NATURE / SHUTTERSTOCK.COM

COOLING OFF

A pelican's beak isn't just a meal-catching marvel, it's also an air conditioner. The big birds have a tough time cooling down. (You'd have a tough time, too, if you had to wear a feather coat all summer!)

Luckily, a pelican's pouch has lots of blood vessels running through it. By fluttering the pouch — it looks a little like a dog panting — air moves over the blood vessels, carrying off heat and cooling the blood inside.



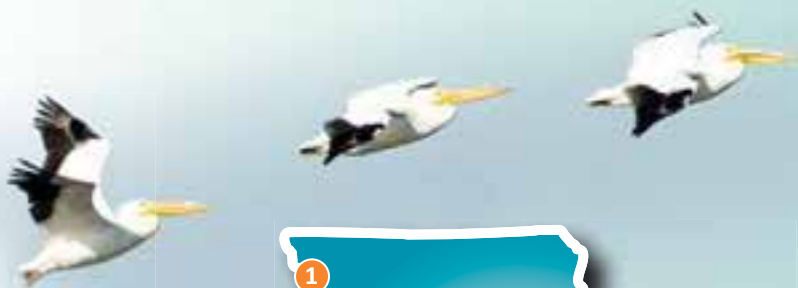
FEATHERED JUMBO JETS

Despite their size, pelicans are graceful flyers. They stretch out their long wings and ride rising currents of air high into the sky until they're nearly out of sight. Pelicans often fly in flocks, forming V's like oversized geese. Sometimes flock mates fly in a wavy, follow-the-leader fashion that looks as though they're riding a roller coaster over a series of hills. To land, pelicans stretch out their legs and ski across the water on their huge webbed feet.



MIGRATION STATIONS

American white pelicans raise their babies on islands in large lakes in Canada and several northern states. They spend winter along the coast from Texas to Florida. In the spring and fall, as they migrate between these two places, pelicans stop to rest and refuel in Missouri's marshes and lakes. To catch a glimpse of these magnificent birds, visit one of these locations in April or October.



- 1 Loess Bluffs National Wildlife Refuge
- 2 Swan Lake National Wildlife Refuge
- 3 Mark Twain Lake
- 4 Eagle Bluffs Conservation Area
- 5 Riverlands Environmental Demonstration Area
- 6 Truman Lake
- 7 Schell-Osage Conservation Area



SOUTHERN FLYING SQUIRREL

POWERFUL PEEPERS

To navigate at night, flying squirrels have huge eyes that help them see in the faintest of moonlight.

WILY WHISKERS

Long, sensitive whiskers help a flying squirrel feel its way around when it gets really dark.





FOREST FLYER

A furry flap of skin lets a flying squirrel glide down from great heights, like a skydiver wearing a wingsuit.

TAIL RUDDER

By changing the slack in its flight flap and using its long tail like a boat rudder, a flying squirrel can steer around branches.

POSTCARDS
FROM A

MIGRATING MONARCH



Hi!
I'm Mona. I'm
a monarch caterpillar.
I might look squishy and
delicate, but there's more
to me than meets the eye.
I'm tough, daring, and
full of surprises.

Mmmmm! Milkweed is
my favorite. In fact, it's
all I eat. And eating is
all I do — well, besides
sleeping. I'm 3,000
times heavier than when
I hatched from a tiny egg.
But getting bigger isn't the only
reason I gobble milkweed. It's
packed with poisonous chemicals.
They don't bother me — I told
you I was tough — but they do
make me poisonous to predators.

Mona



I feel like there's more to life than munching milkweed. So I've decided to make a few changes. First, no more milkweed!

Second, find somewhere new to hang out. This twig seemed like a good spot, so I anchored my behind to its underside, curled into a "J," and ... Presto! My skin split open to reveal a jade-green chrysalis underneath. How's that for a change?



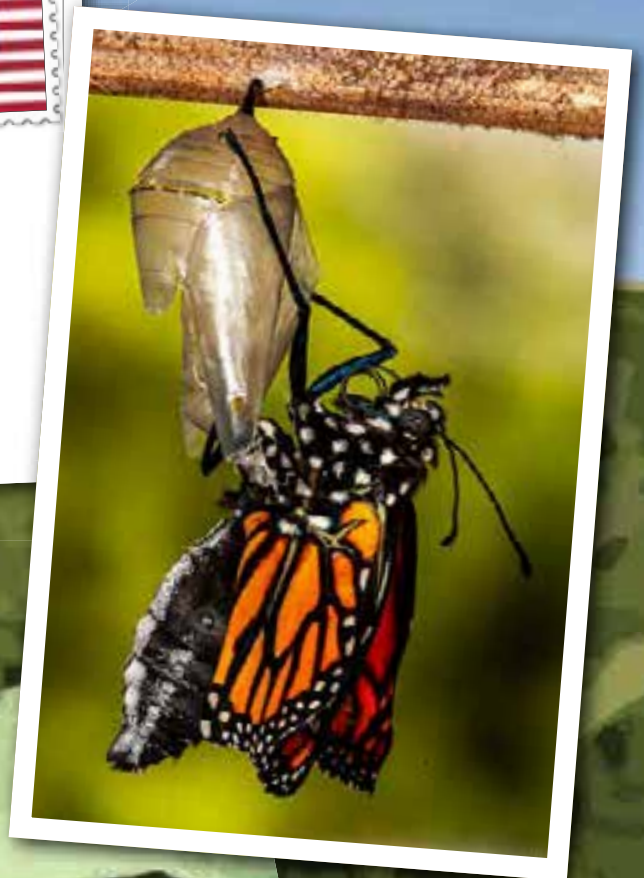
Mona



Inside my chrysalis, my caterpillar parts quickly dissolve into a gooey soup of cells. While it doesn't look like much is happening on the outside, I'm hard at work inside remixing the soup into a brand new body. Today, I'm ready to burst out of my shell — as a beautiful butterfly! Once my wings fully inflate, I'm outta here. No more crawling for this girl!



Mona



We might look alike, but I'm different from monarchs born in the spring and summer. For one, my wing muscles are stronger. They're made to put miles behind me, not just flit from flower to flower. For another, I live about eight months longer than summer monarchs. And finally, summer monarchs are homebodies, while I love to travel. In fact, I'm on an incredible journey right now.



Mona



© MRCVOS | DREAMSTIME.COM



Who needs a map? Not this bold butterfly! The sun and a tiny compass in my brain are all I need to find my way.

MONA'S MIGRATION

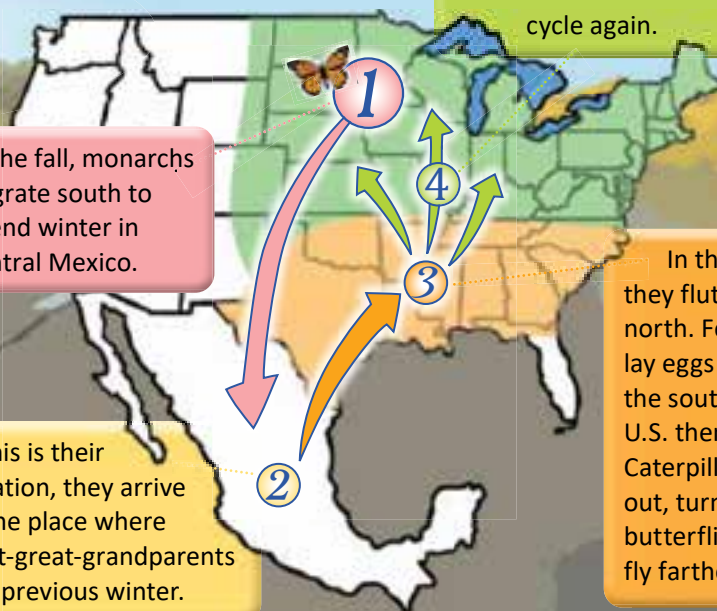
Every fall, newborn monarchs from as far north as Canada fly thousands of miles south to a place they've never been before — a small patch of forest in the mountains north of Mexico City. Their journey is one of the most amazing and dangerous migrations on Earth.

Three or four generations of monarchs live and die through the summer. Caterpillars that hatch in late summer start the cycle again.

In the fall, monarchs migrate south to spend winter in central Mexico.

Though this is their first migration, they arrive at the same place where their great-great-grandparents spent the previous winter.

In the spring, they flutter north. Females lay eggs across the southern U.S. then die. Caterpillars hatch out, turn into butterflies, and fly farther north.





Every day, I fly farther south. With blue skies and a tailwind, I can put 100 miles behind me. But usually, I only go about 30. Thunderstorms blow me off course. Droughts wilt flowers I need for nectar. Cars are a constant danger. But I just keep fluttering. At night, I rest. When I hang from a twig and fold my weary wings, I look like a leaf.



Mona

Remember the Alamo? Well, I just flew over it. Flowers fuel my flutter. I've slowed down a little bit so I can spend extra time guzzling nectar. Even though I fly dozens of miles a day, I've gained weight on this trip. Flowers get scarce during winter in the mountains. If I hope to survive, I need to pack on a few extra ounces.



Mona



© SEAN PAVONE | DREAMSTIME.COM

MEXICO

When you travel as much as I do, you're bound to run into a few critters who'd like to make you their meal. Today, for example, a scissor-tailed flycatcher snatched me out of the sky and tried to eat me. Ouch! Luckily, I taste awful, and he quickly spit me out. My wings got a little scratched up, but they still flap just fine.



Mona



Don't be scared by the skeletons. Today is Day of the Dead, a holiday when Mexicans celebrate their dearly departed. During the celebrations, cascades of butterflies wash down from the skies over sleepy Mexican towns. Thousands of monarchs have joined me on my journey south. Our fluttery appearance reminds villagers of the souls of their lost loved ones.



Mona



Boy, am I beat! I've been flying every waking moment for nearly two months.



© JOSE GIAMPAOLI / DREAMSTIME.COM

I bet you've never seen Christmas ornaments like us! This fir tree is where my friends and I spend winter. It grows on the side of a mountain. At this height, the temperature is just right. If it were warmer, I might use up my energy and starve. But if it were colder, I might freeze. Sometimes, we snap branches if too many of us rest on the same one.



Mona

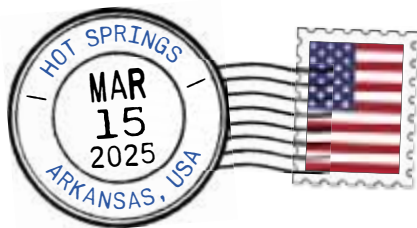


© LEOXOHOUT / SHUTTERSTOCK.COM

USA (AGAIN)



It's springtime, and I'm on the move again. But I'm tired. My pale wings have grown bush-ripped and bird-nipped. I fear this may be my final stop. But don't despair! Tucked under milkweed sprouts from Houston to Hot Springs are nearly 400 of my tiny eggs. Soon, comma-sized caterpillars will hatch, grow into orange-and-black adults, and fly northward until Missouri once again brims with butterflies.





Mona


Thanks for joining me on my journey! This fall, be sure to go outside and look for migrating monarchs. You never know. One of the butterflies you see might make it all the way to Mexico.


SAVE THE MONARCH!


Monarchs like Mona need our help. Over the past three decades, nearly 80 percent of the monarchs east of the Rocky Mountains have disappeared. You can help bring their numbers up by doing a few easy things.

 **PLANT MILKWEED.** Milkweed is the only thing monarch caterpillars eat. Common, swamp, and butterfly milkweed are easy to grow and loved by hungry caterpillars. For planting tips, visit monarchwatch.org/waystations.

 **GROW NATIVE.** Native wildflowers — especially those that bloom during fall migration — provide food for adult monarchs. For a list of nurseries that sell natives you can plant, including milkweed, visit grownative.org.

 **DON'T MOW SO MUCH.** Milkweed often grows in undisturbed areas along roadsides and fencerows.

 **ASK YOUR PARENTS TO AVOID PESTICIDES.** Not only do these chemicals kill pests, they also kill tons of butterflies.

 **TAG MIGRATING MONARCHS.** To save monarchs, biologists need to learn more about them. You can help by putting tracking tags on migrating monarchs. For more info, visit monarchwatch.org.

XPLOR MORE

CREEPY Critters

Some critters seem scarier than any Halloween ghost or goblin. Maybe it's their hair-raising appearance, or their bloodcurdling call, or the way they skitter or slither. Whatever it might be, it's important to remember that every creature has a job in nature, and most — even the creepy ones — go about their business without bothering anybody.

Instructions

A few of Missouri's creepiest critters have gone trick-or-treating. What do we know about them? Write the number for each clue in the circle below the correct critter.



Clues

- 1 I'm not a vampire, but I do eat creatures that suck blood — mosquitoes.
- 2 My spooky nighttime calls are howl I talk to my friends.
- 3 I move as silently as a ghost. My prey never hears me approach.
- 4 Maybe I need to cut back on Halloween candy. I weigh over 300 pounds!
- 5 When I get scared, I pretend to be dead. Sometimes I poop myself.
- 6 My wavering call might make your skin crawl.
- 7 Some say my smile looks spooky. It's probably because my upper jaw has an extra row of teeth.
- 8 Toads are my favorite thing to have tossed in my trick-or-treat bag.
- 9 Lots of folks think I'm blind, but I actually see quite well.
- 10 I puff up my body to scare away predators.
- 11 Those aren't fangs. They're *canine* teeth.
- 12 If I lose a leg, I just grow a new one.
- 13 In winter, my heart nearly stops, and I sleep like I'm dead.
- 14 I'm the only animal here who can outrun a rabbit.
- 15 My scales are so tough, Native Americans used them for arrowheads.
- 16 I fling barbed hairs from my belly at would-be predators.
- 17 To look behind me, I turn my head all the way around. *Creepy!*
- 18 I'm really shy. I hide in my burrow until night falls.



Answers: Silver-haired bat: 1, 9, 13; Eastern screech-owl: 3, 6, 17; Texas brown tarantula: 12, 16, 18; Eastern hog-nosed snake: 5, 8, 10; Alligator gar: 4, 7, 15; Coyote: 2, 11, 14

GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE



Ruby-throated hummingbird

Look for the brilliant red blossoms of **CARDINAL FLOWERS BLOOMING** along streams, rivers, and wet areas across Missouri in September. The deep flowers provide energy-rich nectar to migrating hummingbirds.

Dark-eyed junco



In October, **SONGBIRDS** that nest far to the north arrive to weather winter in Missouri. Put out a bird feeder and keep your eyes peeled for dark-eyed juncos, white-throated sparrows, pine siskins, and purple finches.

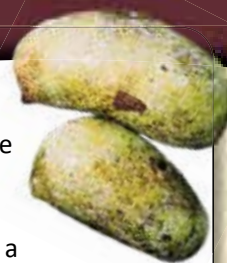
White-throated sparrow



Pine siskin



Purple finch



What's shaped like a stubby banana, tastes like a tropical fruit, and can be found ripening along streams in September? **IT'S A PAWPAW.** For tips on picking and preparing these yummy native fruits, search for pawpaws at mdc.mo.gov/field-guide.



STICKTIGHTS cling to fur and clothing. This helps move the baby seeds, so they don't grow near their parents and compete with them for sunlight, water, and nutrients.



In the fall, **BLACK BEARS FATTEN UP FOR WINTER** by stuffing their furry bellies with whatever they can get their paws on. To avoid bear problems, don't leave pet food outside and keep garbage containers indoors until trash day. To learn more about being bear aware, visit mdc.mo.gov/wildlife/wildlife-facts/be-bear-aware.



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at mdc.mo.gov/events.



WHAT
IS
IT?

— FROM PAGE 3 —



AMERICAN TOAD

Chubby toads begin life as tiny tadpoles. It takes about a month for the water-breathing tadpoles to turn into air-breathing adults. A toad's skin is covered with dozens of bumps. You won't get warts if you touch a toad, but the bumps do produce a toxin that makes most predators sick if they ingest it. During the day, toads hide under rocks, logs, or leaves. At night, they crawl out to eat earthworms and insects.

GO FIND IT!



Cut out this critter card and take it with you outside.
How many of the things on the card can you find?

YELLOW GARDEN SPIDER



BIG MAMAS

A female garden spider's body (minus her long legs) can be up to an inch long with yellow and black marks on her abdomen.

LITTLE DADDIES

Male garden spiders are mostly brown and much smaller than females. Males often build a small, rarely seen web near a female's large, showy web.

WEB WARNING

Garden spiders spin a zigzag of silk in the center of their webs. Biologists think this may make the web easier for birds to see, so they don't crash into it.

SHAKE IT OFF

When a garden spider detects a potential predator, she may shake her web violently to scare it away.

FISHING FOR FLIES

When flies and other insects become tangled in the sticky web, the spider crawls down, wraps them in silk, and injects venom.

ONE
LIFE

— FROM PAGE 3 — Answer: 2 (Elk have four stomachs.)

To subscribe, cancel your subscription,
or update your address, visit

mdc.mo.gov/xplor

FREE TO MISSOURI HOUSEHOLDS

GO FIND IT! 

Look for the wheel-shaped webs of yellow garden spiders in meadows, gardens, and backyards. For more on these web-slinging wonders, crawl over to **mdc.mo.gov/field-guide**.

YELLOW GARDEN SPIDER

